

Attachment A

6/19/01

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:)
)
Revision of the Commission's Rules to) CC Docket No. 94-102
Ensure Compatibility with Enhanced 911)
Emergency Calling Systems)
)
Phase II Implementation Report) TRS/Form 499 ID Nos. 808439, 820852

To: The Commission

**QWEST WIRELESS, LLC AND TW WIRELESS, LLC
AMENDED REPORT ON ENHANCED 911 PHASE II IMPLEMENTATION**

Pursuant to Section 20.18(i) of the Federal Communications Commission's ("Commission" or "FCC") rules,¹ Qwest Wireless, LLC, on our own behalf and that of TW Wireless, LLC (collectively "Qwest Wireless"),² hereby submit our Amended Report on plans for implementing Phase II Enhanced 911 ("E911") service.³ The "reports [to be filed] are intended to encourage advance planning to meet the deadlines established in the Commission's E911 rules, facilitate coordination between wireless carriers and parties . . . involved in the implementation of Phase II, and assist the Commission in monitoring the Phase II

¹ 47 C.F.R. § 20.18(i). That section requires licensees to "report to the Commission their plans for implementing Phase II enhanced 911 service, including the location-determination technology they plan to employ and the procedure they intend to use to verify conformance with Phase II accuracy requirements, by November 9, 2000."

² Qwest Wireless, LLC, together with TW Wireless, LLC, a joint venture in which Qwest Wireless holds a majority equity and sole controlling ownership interest, provides broadband Personal Communications Services ("PCS") in a number of markets. The instant filing is submitted on behalf of both Qwest Wireless, LLC and TW Wireless, LLC.

³ In its Report, Qwest Wireless (consistent with the Third Report and Order, 14 FCC Rcd. 17388, 17428 ¶ 89 (1999)), reserved the right to change our Phase II deployment plans and to pursue an alternative location technology from the "network-based" solution we described as our tentative decision in that Report. Qwest Wireless, LLC and TW Wireless, LLC "Report on Enhanced 911 Phase II Implementation," filed herein November 9, 2000 ("Report") at 3.

implementation schedule[.]”⁴ and are not meant to preclude changes in carriers’ deployment determinations.⁵

In November of last year, Qwest Wireless filed our Report stating our-then current intention to proceed with a network automatic location information (“ALI”) solution for E911 Phase II deployment. Since the filing of that Report, based on our own interactions with vendors and information made available in industry forums, we have become increasingly disenchanted with the suitability of a “network” solution for our broadband PCS network to meet the Commission’s rules and public safety objectives and its limitations with respect to our customers’ service expectations.

For that reason, Qwest Wireless has made the decision to pursue an assisted Global Positioning Satellite (“GPS”) (“AGPS”) “hybrid” solution for Phase II with respect to location-information technology. As stated in our original Report in November, our original inclination to pursue a network-based solution for Phase II was based in large part on “vendor representations received in response to multiple requests for information . . . and requests for proposals.”⁶ While other wireless carriers may have had different, more favorable experiences, we no longer have confidence in those representations as applied to our network. Nor has our confidence been bolstered by testing activities. We have found it difficult to persuade vendors to participate with us in other than the most controlled of testing environments. Lacking strong performance data in a live network environment (whether ours or other carriers’ networks), we

⁴ Public Notice, “Wireless Telecommunications Bureau Provides Guidance on Carrier Reports on Implementation of Wireless E911 Phase II Automatic Location Identification,” CC Docket No. 94-102, DA 00-2099 (rel. Sept. 14, 2000) at 1.

⁵ Id. at 3.

⁶ Report at 3.

are no longer willing to pursue a solution with – at best – an unpredictable (if not unproven) ability to conform to the Commission’s mandates and the public’s expectations.

While the decision to pursue an AGPS is a modification in direction from what Qwest Wireless tentatively declared as our location-technology choice in our November, 2000 Report, the possibility for this modification was clearly outlined. In that Report, Qwest Wireless advised that we intended to continue our investigation of a “hybrid” solution,⁷ and that we believed such a “solution may, in fact, serve public safety interests more effectively than a network-based solution, as it is expected to provide greater accuracy with higher probability and can more easily be adapted over time to account for technological changes and advances.”⁸

Moreover, at the time Qwest Wireless filed our November Report, our ability to pursue a “hybrid” solution was hampered by the fact that the availability of Commission-compliant handsets was not expected by the Commission’s October 1, 2001 deadline.⁹ While it remains the case that total and complete compliance with the Commission’s E911 Phase II rules cannot be accomplished by the current deadline, our most recent communications with vendors suggest that Qwest Wireless will need but a modest waiver of the handset deployment benchmarks to become substantially compliant with the Commission’s rules. We believe we can secure at least one model of a compliant handset for customer distribution between October and December, 2001, although not by October 1, 2001.¹⁰

⁷ In that Report, Qwest Wireless advised the Commission that it had already participated “in testing for handset-based solutions and in the standardization process for handset-based and hybrid solutions.” Id. at 3 (citations omitted).

⁸ Id. at 3.

⁹ Id. at 4.

¹⁰ Qwest Wireless is aware that moving beyond the October 1, 2001 deadline regarding handset availability will require a Commission waiver. Such a waiver is being prepared and will be filed in due course.

With respect to the network component of the hybrid solution, Qwest Wireless will be seeking a waiver with respect to those markets served by Nortel switching infrastructures. While Qwest Wireless will be able (at least according to our current best estimates) to meet the Commission's October 1, 2001 deadline with respect to those markets where we have deployed Lucent switching technology, the information we have received from Nortel indicates that the necessary switch upgrades will not be available until Third Quarter, 2002 for commercial rollout. This delay, however, would be occurring whether Qwest Wireless remained wedded to the network-based solution or made the switch to a hybrid solution. In light of this, we are confident that the waiver we will seek from the Commission will be targeted and limited. We believe that the grant of the waiver request will best serve the public interest, particularly in light of the fact that for our network and our customers, the AGPS location-technology is superior to that of a network solution from a public safety perspective.

Below, the information contained in this Amended Report is provided as responsive to the requirements set forth in the Commission's rules and is organized in accordance with the guidance provided in the Wireless Telecommunications Bureau's ("Bureau") Public Notice of September 14, 2000.¹¹ This Amended Report focuses, as it should, on what Qwest Wireless can – and will do – to meet the Commission's E911 Phase II requirements, not on what it cannot do. To the extent there are aspects of this Amended Report that will require waivers or dispensation from existing Commission rules, such will be sought in a timely fashion.

Contact and Carrier Information

(1) *Carrier Identifying Information*

Qwest Wireless, LLC: TRS/Form 499 ID No. 808439

¹¹ Public Notice at 2-3.

(2) *Contact Information*

Correspondence or other inquiries regarding the Amended Report should be addressed to the following persons:

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With a copy to:

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E911 Phase II Location Technology Information

(1) *Type of Technology*

Qwest Wireless is a broadband PCS licensee with a Code Division Multiplexing Access ("CDMA") 1900 MHz network. As stated above, Qwest Wireless has made the decision to pursue an AGPS hybrid solution for Phase II with respect to location information technology. There are five major components involved in using a hybrid solution: (1) existing CDMA technology; (2) Mobile Switching Center ("MSC") software; (3) Position Determining Equipment ("PDE"); (4) Mobile Positioning Center ("MPC"); and (5) an AGPS chipset that is integrated into a handset. The MSC software is needed in every switch and cell site, so that when a call is set up or in progress a trigger is passed to the handset without disconnecting the

call. The PDE utilizes algorithms that capture reference and timing information from GPS and CDMA to Round Trip Delay ("RTD") using advanced forward link triangulation ("AFLT").¹²

The AGPS uses the wireless network data and the GPS data to locate the caller. The hybrid solution combines trilaterization methods and GPS to locate a wireless handset. Because this system uses a combination of technologies, it works well in all types of environments (rural, suburban, and urban).

(2) Testing and Verification

Overall

Qwest Wireless, like Sprint PCS, operates a CDMA wireless network. We are aware of the "Testing and Verification" information provided by Sprint PCS in its Report last November.¹³ We are also aware, and have been, of the reputation of the SnapTrack technology prior to its being taken over by QUALCOMM. The performance of the SnapTrack technology is a matter of record before the Commission, and just last October QUALCOMM conducted another successful test of the SnapTrack/GPSOne technology in San Diego.¹⁴ Furthermore, we understand that QUALCOMM reports a successful commercial deployment of GPSOne in Japan.¹⁵ Additionally, since the production of documents by Nextel Communications, Inc.

¹² Typically, carriers will have duplexed PDEs in different MSCs to prevent single point of failure and to create redundancy in the network.

¹³ Joint Sprint PCS "Phase II Implementation Report," filed herein November 9, 2000 ("Sprint Report") at 5-7.

¹⁴ See QUALCOMM Incorporated, News Release, "QUALCOMM CDMA Technologies Performs World's First Over-the-Air CDMA Position Location Demonstration on Commercial Network at the CDG Americas Congress" (rel. November 1, 2000).

¹⁵ See QUALCOMM Incorporated, *Ex Parte* Presentation, CC Docket No. 94-102, filed April 24, 2001.

("Nextel"), in response to a demand from the Bureau,¹⁶ further information has been made public, indicating that the AGPS solution is – indeed – a highly accurate and reliable location-information technology.¹⁷

Against this industry information, we intend to test the AGPS hybrid solution in our network in accordance with the requirements of the CDMA Development Group (or "CDG")¹⁸ Test Plan which, in turn, is designed to be consistent with the guidance provided in OET Bulletin No. 71. Qwest Wireless intends to implement and test this solution with the CDG Test Plan. Moreover, Qwest Wireless will be testing live network trials of the hybrid solution from approximately June 1, 2001 through September 30, 2001.

Handsets/Chipsets

QUALCOMM, a primary vendor of hybrid solutions, actively participates in the activities of the CDG. Qwest Wireless has reviewed data provided by QUALCOMM and understands that QUALCOMM's testing of its hybrid solution has been in accordance with the requirements of the CDG Test Plan which, in turn, is designed to be consistent with the guidance provided in OET Bulletin No. 71. Qwest Wireless will test the AGPS handsets, incorporating the QUALCOMM chipset during the period October 1, 2001 through December 30, 2001, as the sets are made available.

¹⁶ See "Response of Nextel Communications, Inc. and Nextel Partners, Inc. to Order of the Wireless Telecommunications Bureau," filed herein May 21, 2001 ("Nextel Response").

¹⁷ *Id.* at 8 (asserting that Nextel chose this technology and described it in its last November Report because it believed it to be the "only location technology that complied with the Commission's accuracy and reliability requirements").

¹⁸ This Group is a consortium of companies that have joined together to help ensure interoperability among different CDMA systems and to develop test methodologies for new capabilities or technologies. See www.cdg.org. See also "Guidelines for Testing and Verifying the Accuracy of Wireless E911 Location Systems," Office of Engineering and Technology ("OET"), Bulletin No. 71 (April 12, 2000).

PDE

Qwest Wireless intended to test the technologies of two PDE vendors. However, contract negotiations broke down with respect to one of the vendors in view of that vendor's demand that Qwest Wireless purchase the equipment before testing. Qwest Wireless is now considering a single vendor, and the trial contract is expected to be fully executed within days of this filing. Qwest Wireless has contracted with TechnoCom Corporation to assist with test plans and verify compliance of the J-STD-036 standards from all PDE vendors.¹⁹

MPC

We have currently signed a trial contract with Intrado (formerly SCC), a database management 911 company. The testing that will be performed with Intrado will validate that the PDE, MPC, Handsets and MSC will work efficiently and pass the necessary data to the Public Safety Answering Point ("PSAP") so that the PSAP can locate the 911 call. Qwest Wireless is currently also in negotiations with Intrado for a commercial E911 Phase II contract for database management services.

MSC

Qwest Wireless intends to test the MSC software upgrades with the respective vendors (Lucent and Nortel) as those upgrades become available. We anticipate the Lucent software upgrades to be deployed between July and September, 2001. Testing and verification will occur during this time frame, and is anticipated to allow for an October 1, 2001 "ready" date. However, Nortel will not have the necessary switch upgrades available before end of First Quarter/Beginning of Second Quarter 2002. Allowing time for testing and verification, Qwest

¹⁹ TechnoCom is a system engineering firm specializing in wireless system engineering and product development. This company was used by Nextel to collect the specific latitude and longitude (what Nextel calls the "ground truth") of each of its predetermined test call locations in the trials which it was successful negotiating. See Nextel Response at 5-6.

Wireless' expectation is that AGPS service should be up and running in Nortel markets by Third Quarter 2002. As noted above, Qwest Wireless will be seeking an appropriate waiver to account for the limitations of the Nortel switches.

(3) Implementation Details and Schedule

Implementation of Qwest Wireless' Phase II compliance plan requires the manufacture and sale of new handsets, the modification of existing network infrastructure, and the construction of PDE and MPC platforms. The development of each of these elements of the network is independent. For example, because network infrastructure cannot be tested until handsets are manufactured, a delay in handset roll out could delay the full implementation of network modifications. Conversely, handsets cannot be manufactured in mass quantities until they have been tested on network prototypes.

Attached as Attachment A (Microsoft Excel format) is an overview of Qwest Wireless' anticipated deployment timetable, showing the key tasks that must be completed before Phase II can be completely implemented. Of course, since a variety of these items are beyond Qwest Wireless' control, no assurances can be given that the timetable will not slip. We have, however, impressed on our vendors the seriousness of our resolve in terms of timely deployment and the need to proceed toward substantial compliance with the Commission's rules.

Immediately below is a narrative summary of milestones associated with our AGPS deployment schedule.

Handset Component. Implementation of the hybrid solution will require the sale of mobile handsets with an AGPS-location technology. Qwest Wireless anticipates that Kyocera handsets with the AGPS-capable MSM3300 QUALCOMM chipset will be available during Fourth Quarter, 2001, and that the AGPS technology with the QUALCOMM MSM5100 chipset

will be available Second to Third Quarter, 2002.²⁰ Qwest Wireless' other handset vendors, Motorola and Nokia, have indicated that at least one model of handset with the AGPS chipsets will become available Second to Third Quarter, 2002 and the second half of 2002, respectively.

Qwest Wireless will be testing pre-production AGPS handsets from July to September, 2001, testing for GPS functionality as we deploy and test the PDE. When we begin to receive commercially-available phones from Kyocera, we will then engage in post-production testing from about September/October through December, 2001, as the handsets are made available and are provided to customers. This latter testing will be done between the handset and the Qwest Wireless network (as is the case for any handset), to assure for roaming, radiofrequency issues, user experience, and so on.²¹ Thus, while Qwest Wireless might actually have a handset in its possession by end of September or beginning of October, 2001, it could not "begin selling" that

²⁰ Qwest Wireless understands that manufacturers of the chipsets are attempting to accommodate existing network architectures (e.g., "second generation" or "2G" architectures), while at the same time looking to meet the demands of the upcoming "2.5G" (or even "third generation") architecture. See Sprint PCS November Report at 8 ("Sprint PCS has serious concerns over the availability of sufficient handsets to meet the 25% penetration rate in light of the conversion of CDMA networks to third generation technologies ("3G") over the same time period."). Thus, Qwest Wireless has been informed that handsets with the MSM3300 QUALCOMM chipset will be offered in a limited supply, as manufacturers look toward producing and distributing the MSM5100 location-capable chipset for use in the next-generation handsets.

As noted above, Kyocera apparently intends to incorporate the MSM3300 chipset into a new model to be commercially available Fourth Quarter 2001, and Qwest Wireless will order a number of such handsets. While volume and customer choice considerations will likely preclude compliance with the subsequent new handset activation benchmarks, compliance with the October 1, 2001 deadline might be feasible, if all things proceed according to schedule. Not anticipating that this will be the case, Qwest Wireless will be seeking a waiver of the October 1, 2001 "begin selling and activating" requirement.

²¹ Qwest Wireless would also consider other vendors that can provide AGPS-capable handsets for our CDMA network, should our vendors currently under consideration be unable to comply.

handset for about six to eight weeks thereafter. For this reason, Qwest Wireless will request a waiver of the "begin selling and activating" deadline until December 31, 2001.²²

Qwest Wireless' current subscriber base replaces handsets, on average, every two years. Thus, once location-capable handsets become available, Qwest Wireless anticipates that they will be integrated into our subscriber base quickly. In furtherance of this objective, Qwest Wireless intends to competitively price and promote the location capability of such handsets to end users.

Network Component. Qwest Wireless' ability to fully deploy the network-based components of the AGPS solution for Phase II will depend on whether the company has implemented Lucent or Nortel switching equipment in a particular market.²³

Lucent/MSC. Qwest Wireless has contracted with Lucent for the necessary MSC upgrades. We anticipate that the network-based component of the AGPS solution will be available in all Lucent markets by late September 2001.

Nortel/MSC. For markets in which Qwest Wireless uses Nortel switches, the necessary generic switch upgrades will be completed approximately Third Quarter 2002. We will be seeking a waiver from the Commission regarding this deployment schedule for the affected markets.

Qwest Wireless will implement the switch upgrades network-wide once they become available, notwithstanding whether a local PSAP has requested the service. Once the necessary switch upgrades are available and implemented, Qwest Wireless anticipates that if a PSAP has already implemented Phase I *via* an NCAS environment, it will take only approximately three (3)

²² The waiver request will also ask that the December 31, 2001 date and the June 30, 2002 date also be extended.

²³ See Attachment B for a list of the markets and the switching vendor serving each.

months to deploy the AGPS network components and test *via* live trials. Actual deployment of Phase II will, however, remain prioritized by PSAPs submitting valid requests for Phase II service.²⁴

Compaq/PDE and Intrado/MPC

Qwest Wireless anticipates that deployment of other E911 Phase II network components, such as PDE and MPC, will begin as early as October 15, 2001, with completion by late November 2001 with respect to both Lucent and Nortel markets. Then, once the MSC software upgrades are deployed, Qwest Wireless – focusing on markets where PSAPs have submitted valid requests – will complete Phase II deployments and begin service provisioning.

(4) PSAP Interface

Qwest Wireless will create an MPC platform, with the assistance of Intrado, to interface with the public switched telephone network (“PTSN”) and the PSAP community. While individual PSAPs must, of course, evaluate their own capabilities prior to submitting a valid Phase II request, at minimum PSAPs must implement mapping software for PC map updates, base maps, and possibly new customer premises equipment (“CPE”) and network facilities. Qwest Wireless will continue to coordinate efforts and share information with PSAPs.

(5) Existing Handsets

Qwest Wireless will rely on several factors to drive penetration of location-capable subscriber equipment. First, customers presently upgrade/change their handsets at an approximate interval of 18-21 months. This provides a natural turnover of “legacy” subscriber equipment. Second, Qwest Wireless will continue to incorporate new features for the marketplace to encourage the purchase of new handsets. As each generation of new features is

²⁴ See 47 C.F.R. § 20.18(g)(2).

launched, subscribers are given greater incentives to purchase new equipment. Finally, Qwest Wireless intends to competitively price and promote the location capability of such handsets to end users.

(6) Location of Non-Compatible Handsets

The handsets and network infrastructure that Qwest Wireless will deploy in order to comply with the Commission's mandate²⁵ will adhere to the TIA/ANSI IS-801 standard for messaging between CDMA handsets and networks. Standards-based handsets that are both location-capable and capable of roaming onto the Qwest network will also be expected to adhere to this standard. Where only cell/sector information is available from a legacy or roaming handset calling 911, the information will be delivered using the Phase II mechanism, giving the latitude and longitude of the cell/sector serving the caller. PSAPs upgrading to Phase II will receive location information in accordance with J-STD-036, providing full compatibility for all handset types.

In addition, Qwest Wireless will continue to research the use of trilateralization techniques to determine whether we can provide location information for legacy handsets with a higher degree of accuracy than the current requirements for Phase I information. Qwest Wireless will encourage vendors to develop non-proprietary solutions to support non-ALI-compatible handsets. In any event, high handset turnover among our customers, and the more timely availability of ALI-capable handsets in the marketplace, will enable us to provide Phase II services for more of our customers and roamers more expeditiously.

²⁵ See 47 C.F.R. § 20.18(g)(3). Qwest Wireless is unaware of any "default" network-based solutions currently operational in our service areas to which 911 calls might be routed. Third Report and Order, 14 FCC Rcd. at 17414 ¶ 56.

(7) Other Information

PSAP Requests. A number of state and local government entities have submitted letters to Qwest Wireless requesting Phase II service. Among those in Qwest Wireless' service territory submitting such requests are Murray City, Utah; El Paso/Teller County, Colorado; Larimer County, Colorado; the State of Minnesota; and Saint Louis Park, Minnesota.²⁶ El Paso/Teller County appears to be the closest to having actual Phase II capability.²⁷

Qwest Wireless will share information as appropriate with inquiring PSAPs. And we will work with all PSAPs submitting such inquiries who are ready to begin negotiations. In any event, we will prioritize our actual deployment efforts, focusing on valid requests from PSAPs which have made the necessary upgrades to their networks to accommodate E911 Phase II deployment. (Such upgrades would include, but are certainly not limited to, CPE upgrades, mapping software, and necessary trunking costs.²⁸) Also, as the Phase II deployments become more imminent, Qwest Wireless may be forced to prioritize even valid requests in accordance with the respective capabilities of the switching facility serving the PSAP's jurisdiction which will depend on whether the area at issue is served by a Lucent or Nortel switch, as discussed above.

²⁶ Qwest Wireless anticipates receiving a number of additional letters in conjunction with APCO's Project 38.

²⁷ See 47 C.F.R. § 20.18(j).

²⁸ APCO has advised its members of a wide variety of potential PSAP costs in the context of Project 38.

Qwest Wireless is committed to meeting its E911 Phase II obligations and is working toward this end.

Respectfully submitted,

QWEST WIRELESS, LLC

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Its Attorneys

June 19, 2001

ATTACHMENT A

1	Negotiate and executed contract for Phase 2 Trial with Intrado (SCC) and Technocom	01/03/2001	01/29/2001	Intrado (SCC) will be providing a Trial MPC for testing Phase 2 data and also providing a PSAP simulator to verify that the data being passed to PSAP is in valid format. Technocom will be responsible for developing test plans in relation to the trial and verifying that all hardware/software is in compliance of J-STD-036.
2	Negotiate and Execute PDE vendor for Trial Purposes	05/15/2001	06/11/2001	Contract is only for duration of trial, and trial will be used to validate that PDE conforms to the FCC Mandate.
3	PDE Delivered to Lab	07/02/2001	07/16/2001	PDE being delivered is Pre-production PDE and will not be used for deployment purposes, nor will be duplexed for redundancy purposes
4	Lucent MSC Software retrofits in all Lucent Markets	07/06/2001	08/21/2001	MSC software will start in first market and rolled out in subsequent markets thereafter
5	MSM-3300 Pre-Production handsets delivered	07/07/2001	07/07/2001	Handsets will be FFA handsets, and not for commercial deployment.
6	Begin System Integration	07/16/2001	08/17/2001	Begin introducing PDE and MPC into a market, for verification of Standards and Messaging
7	PDE Performance Verification	08/20/2001	08/31/2001	PDE verification will be the first step in verifying that First time to Fix is within 7 seconds and that the locations of the handsets are within the mandate
8	CDG Test Plan Testing	09/03/2001	09/30/2001	Test plan will cover all areas identified in test plan. Analysis will be completed identifying areas where QW is in compliance with the mandate and areas that need improvement
9	Deployment PDE purchase negotiated and executed	09/15/2001	09/15/2001	PDE purchase is contingent on whether or not the performance of the system is meeting the FCC's mandate in regards to location accuracy.
10	Cell Calibration for markets where request has been made	09/15/2001	10/15/2001	Cell Calibration is needed at every cell site to accurately measure the location of each caller. Calibration will begin before the equipment arrives so that deployment of Phase 2 can be expedited once all the hardware and software are deployed.
11	First commercial MSM-3300 handset delivered and testing completed	10/01/2001	12/31/2001	QW will initially have one handset to offer due to limited availability from our existing vendors. This handset will be priced competitively with other handset offerings and development of targeting Sales Channels that produce high volumes of sales will start
12	Deployment PDE installed and turned up for service	10/15/2001	11/01/2001	PDE installed and facilities in the process of being ordered. 1st commercial handsets will be tested in regards to the first market launch of Phase 2
13	Mandated 25% of all new handset sales with MSM 3300 chipset	N/A	03/31/2002	
14	First Market Launch of E-911 Phase 2 and handset sales begin	12/31/2001	12/31/2001	
15	Mandated 50% of all new handset sales with MSM-3300 chipset	N/A	12/31/2002	
16	Mandated 100% of all new handset sales with MSM 3300 or MSM 5100 chipsets	N/A	03/31/2003	

ATTACHMENT B

PSAP Requests to Date, Anticipated Requests and Vendor Support

Requests Received:

Murray City, UT (Nortel)
El Paso/Teller County, CO (Lucent)
State of Minnesota (Lucent)
Saint Louis Park, MN (Lucent)
Larimer County, CO (Lucent)

Project 38 (APCO) Anticipated Requests:

Flagstaff, AZ (Nortel)
Douglas County, CO (Lucent)
Boise, ID (Nortel)
Bozeman, MT (Nortel)
Las Cruces, NM (Nortel)
Rapid City, SD (Nortel)
Bellevue, WA (Lucent/Nortel)
Laramie, WY (Nortel)

CERTIFICATE OF SERVICE

I, Richard Grozier, do hereby certify that I have caused the foregoing **QWEST WIRELESS, LLC AND TW WIRELESS, LLC AMENDED REPORT ON ENHANCED 911 PHASE II IMPLEMENTATION** to be 1) filed with the FCC via its Electronic Comment Filing System, 2) served, via hand delivery on the parties listed on the attached service list.

Richard Grozier
Richard Grozier

June 19, 2001

Thomas J. Sugrue
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CC94-102b.doc
Updated 6/18/2001

**Federal Communications Commission**

**The FCC Acknowledges Receipt of Comments From ...
Qwest Wireless LLC
...and Thank You for Your Comments**

Your Confirmation Number is: '2001619964868' 1

Date Received: Jun 19 2001

Docket: 94-102

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updated 07/07/00

Attachment B


Lucent Technologies
Bell Labs Innovations

Chris Fernandez
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Cellular & PCS Applications Product Management

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June 27, 2001

Mr. Travis Beard
Product Manager, Wireless Office Solutions
1860 Lincoln St
Floor 12
Denver, CO 80295

Re: E911 Phase 2 Network Feature General Availability Dates

Dear Travis,

Lucent is currently developing an Enhanced 911 Phase II solution for its CDMA networks. We plan to make the following features generally available pursuant to the below schedule:

September 7, 2001

3581.0 - E-911 Phase 2 via Network-based Geolocation

3581.1 - Databurst Messages (IS-801) via MSC to PDE

September 28, 2001

3581.2 - CDMA Override Position Determination (AFLT)

These generally available dates are preliminary and are subject to change based on the results of upcoming field testing.


Chris Fernandez

cc. A. Kingsbury
M. Onatolu



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June 26, 2001

**Ms Heather Mackell
Qwest Wireless
1860 Lincoln Street, 1st Floor
Denver CO 80295**

Subject: FCC Mandates – Revised

Dear Heather,

As per your letter of June 21, 2001, please find attached Nortel Networks' updated response to your questionnaire. The Nortel Networks' dates provided in the questionnaire are the currently scheduled release dates. These dates are subject to change due to potential testing issues and/or Nortel Networks' business considerations.

If you have any further questions or considerations, please do not hesitate to contact me at 303.850.5722 or Ron Heard at 303.850.5767.

Regards,

A handwritten signature in black ink that reads "Thomas Tardiff". The signature is fluid and cursive, with the first name "Thomas" and last name "Tardiff" clearly legible.

Tom Tardiff

Attachment

**Cc Mary Allmaras, Qwest Wireless
Matt Middlebrooks, Qwest Wireless
Ron Heard, Nortel Networks
Tony Smith, Nortel Networks**

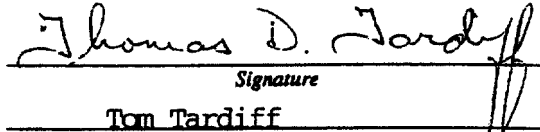
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Questionnaire

Please respond to the question below in the appropriate space provided. An incomplete response or no response will be construed as Nortel's inability to meet Qwest's requirements.

FCC Mandate	Software Release	Date Available to Qwest for Delivery (<i>Nortel please fill in below</i>)	Comments
E911 Phase II Mandate: 10/01/01	MTX 10 IOS v4.0	1Q2002	
E911 TTY Mandate: 12/31/01	<i>Nortel- please specify the software release which will support TTY/TDD for CDMA:</i>	Please see note below!	

Authorized representative of Nortel Networks



Signature
Tom Tardiff

Print Name
Director, Sales

Title
June 26, 2001

Date

Note: E911 TTY/TDD Mandate: CDMA E911 TTY/TDD support is a vocoder-based solution based on IS standards (IS-127-2-EVRC vocoder, IS-733-1-13Kbps vocoder). Vcoders in a CDMA wireless network model reside in the Base Station Controller (BSC). Nortel Networks will deliver support for E911 TTY/TDD in Nortel Networks' proprietary BSC as a part of the MTX10 IOS 4.0 software delivery as stated above.

However, in Qwest Wireless' PCSAN multi-vendor network, Nortel Networks understands that Ericsson is responsible for implementing E911 TTY/TDD functionality in Qwest Wireless' network via Ericsson's BSC.

Re: E911 Phase 2 core network technology and CALEA punch list functionality

Ms. Heather Mackell:

In this letter, Nortel Networks details its plans for making the E911 Phase 2 core wireless network technology (E911 technology) and the CALEA punch list functionality available.

E911

Nortel Networks is committed to its part in enabling an end-to-end, E911 Phase 2 location information solution. As explained in this letter, Nortel Networks will supply the E911 technology enabling wireless carriers using its DMS-MTX switch, when interworking with other parties and technologies, to convey location information to the Public Safety Answering Point (PSAP).¹ Despite diligent development efforts, the E911 technology will be made generally available after October 1, 2001 as detailed in this letter.²

Required Components and Availability Details

The E911 technology for use with the DMS-MTX platform requires a combination of hardware and software, which Nortel Networks has designed to operate in accordance with the E911 applicable J-STD-036 standard. The functional elements constituting the Nortel Networks E911 technology are switch software, RF Access system software, Mobile Positioning Center (MPC) and Positioning Determining Entity (PDE).

The E911 technology elements will be made generally available by Nortel Networks according to the following schedule.

Component	Role	GA Date
MTX10	Switch software	Q4 2001
NBSS10.1	RF access subsystem	Q4 2001

Nortel Networks will make its combined MPC/PDE generally available in Q2 2002. Because the functions performed by the MPC/PDE are standards based, carriers using

¹ The Nortel Networks' DMS-MTX switch is generally used by carriers to support TDMA and CDMA wireless protocols. Note that the E911 technology does not support Satellite Assisted Mobile Positioning Systems (SAMPS) based TDMA handset solutions. This handset solution is not supported because Nortel Networks understands that no handset vendor plans market introduction of a SAMPS enabled handset.

² By generally available, Nortel Networks means that the product has been adequately tested, any corrections made and offered commercially to all carriers desiring to purchase or license the product or software.

the Nortel Networks MTX platform may procure the necessary technology from other vendors and need not wait until Nortel Networks makes its MPC/PDE available to deploy E911. Finally, IOS version 4.0 must be deployed in carriers' networks with equipment from multiple vendors. The IOS software will become generally available in Q1 2002.

This schedule represents Nortel Networks' current plan. This plan could be altered by a number of factors, including unavailability of handsets for testing and resolution of technical issues identified through interoperability testing of the E911 technology with other vendors' technology contributions.

Even after general availability, carriers will need time to deploy the solution across the portions of their networks covered by validated PSAP requests.

Standards

As noted, the E911 technology is standards based. Applicable standards were only approved and published last year. Generally, 18 to 24 months are needed between standard adoption and development of compatible technology. As you will note from the discussion in the above section entitled "Required Components and Availability Details", Nortel Networks has bested or equaled the usual timelines for delivery of functionality after a standard is published.

Field Trial

Nortel Networks endorses an end-to-end field trial before a more extensive rollout of the E911 technology takes place. The end-to-end field trial is important because, to address the overall goal of the delivery of location information to a PSAP, the E911 technology must successfully inter-work with the E911 components supplied by other vendors as well as technologies supplied by other necessary parties, such as the location technology provider and the Local Exchange Carrier.

The successful conclusion of the trial will provide a validated solution across all necessary technologies and parties. To deploy a solution without an end-to-end field trial could lead to remedying the same issues multiple times in a serial fashion. Nortel Networks does not have the resources to deploy the E911 technology and then correct issues that may well be identical, simultaneously. Other necessary parties, such as the location solution vendors and Local Exchange Carriers and even wireless carriers, may have similar limitations.

CALEA

Nortel Networks will make six punch list items available in generic software release MTX10. Each item will be individually toggled. As noted above, the MTX10 generic software release will become generally available in Q4 2001, shortly after the

initial FCC compliance date of Sept. 30, 2001. Any hardware necessary to achieve compliance with the punch list requirements is available now.

Nortel Networks has moved diligently to develop the CALEA punch list functionality since the standards were adopted for the punch list items in April 2000. Nortel Networks will begin trialing the CALEA software later this summer with several customers. Nortel Networks plans to test the MTX10 CALEA software with the FBI later this year.

Nortel Networks plans to shortly provide the FCC with its delivery schedule for E911 technology and the CALEA punch list functionality. The FBI will be presented with a copy of the Nortel Networks presentation for purposes of demonstrating when the punch list features will be made available. Your company may want to contact the FBI about CALEA flexible deployment in light of the availability of MTX10 after the Sept. 30 compliance date.

If you should have any further questions or concerns in this matter, please contact Ron Heard at 303.850.5767.

Sincerely,

A handwritten signature in cursive script that reads "Ron Heard for Thomas Tardiff". The signature is written in dark ink and is positioned below the word "Sincerely,".


Thomas A. Tardiff

Attachment C

						Percent Complete
1	Negotiate and executed contract for Phase 2 Trial with Intrado (SCC) and Technocom	#####	#####	Intrado (SCC) will be providing a Trial MPC for testing Phase 2 data and also providing a PSAP simulator to verify that the data being passed to PSAP is in valid format. Technocom will be responsible for developing test plans in relation to the trial and verifying that all hardware/software if in compliance of J-STD-036.		100%
2	Negotiate and Execute contract with Compaq for Trial Purposes	#####	#####	Contract is only for duration of trial, and trial will be used to validate that PDE conforms to the FCC Mandate.		100%
3	Compaq PDE Delivered to Lab	#####	#####	PDE has been delivered and is a Pre-production PDE and will not be used for deployment purposes, nor will be duplexed for redundancy purposes.		100%
4	Lucent MSC Software retrofits in all Lucent Markets	#####	#####	Lucent MSC software has been delayed from its 06/28/01 delivery date and will impact testing planned to take place starting 07/16/01. MSC software will not be available until 09/07/01 with complete delivery 09/28/01. Once software is available, will implement in remaining markets according to retrofit schedules.		0%
5	MSM -3300 Pre-Production handsets delivered	#####	#####	Handsets will be FFA handsets, and not for commercial deployment. Handsets are ready to ship, however due to MSC software being delayed, handsets will not be delivered until August 2001.		50%
6	Begin System Integration	#####	#####	Begin introducing PDE and MPC into a market, for verification of Standards and Messaging. Due to MSC Software changes, testing has been delayed. Will be able to test step 2 of integration without MSC software, but remaining testing is contingent on MSC software availability.		0%
7	PDE Performance Verification	#####	#####	PDE verification will be the first step in verifying that First time to Fix is within 7-12 seconds and that the locations of the handsets are within the mandate		0%
8	CDG Test Plan Testing	#####	#####	Test plan will cover all areas identified in test plan. Analysis will be completed identifying areas where QW is in compliance with the mandate and areas that need improvement.		0%
9	Deployment PDE purchase negotiated and executed	#####	#####	PDE purchase is contingent on whether or not the performance of the system is meeting the FCC's mandate in regards to location accuracy.		0%
10	Cell Calibration for markets where request has been made	#####	#####	Cell Calibration is needed at every cell site to accurately measure the location of each caller. Calibration will begin before the equipment arrives so that deployment of Phase 2 can be expedited once all the hardware and software are deployed.		0%
11	First commercial MSM-3300 handset delivered and testing completed	#####	#####	QW will initially have one handset to offer due to limited availability from our existing vendors. This handset will be priced competitively with other handset offerings and development of targeting Sales Channels that produce high volumes of sales will start.		0%
12	Deployment PDE Installed and turned up for service	#####	#####	PDE installed and facilities in the process of being ordered. 1st commercial handsets will be tested in regards to the first market launch of Phase 2		0%
14	First Market Launch of E-911 Phase 2 and handset sales begin	#####	N/A			0%
13	Mandated 25% of all new handset sales with MSM 3300 chipset	N/A	#####			0%
15	Mandated 50% of all new handset sales with MSM 3300 or MSM 5100 chipset	N/A	#####			0%
16	Mandated 100% of all new handset sales with MSM 3300 or MSM 5100 chipsets	N/A	#####			0%

CERTIFICATE OF SERVICE

I, Doree Cordoviz, do hereby certify that I have caused the original and nine copies of the foregoing **QWEST WIRELESS, LLC AND TW WIRELESS, LLC PETITION FOR EXTENSION OF TIME OR WAIVER OF SECTION 20.18 OF THE RULES** to be filed with the Secretary of the FCC, and a copy to be served, via hand delivery on the parties listed on the attached service list.


Doree Cordoviz

July 23, 2001

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